



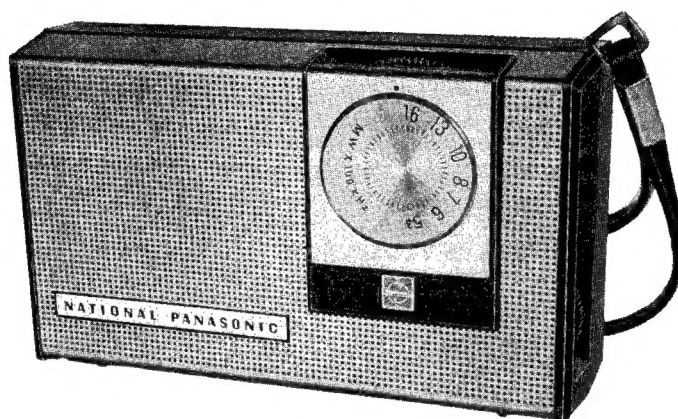
NATIONAL PANASONIC

Service Manual

ORDER NO. RD-627

1-BAND 6-TRANSISTOR PORTABLE RADIO

MODEL **R-1037**

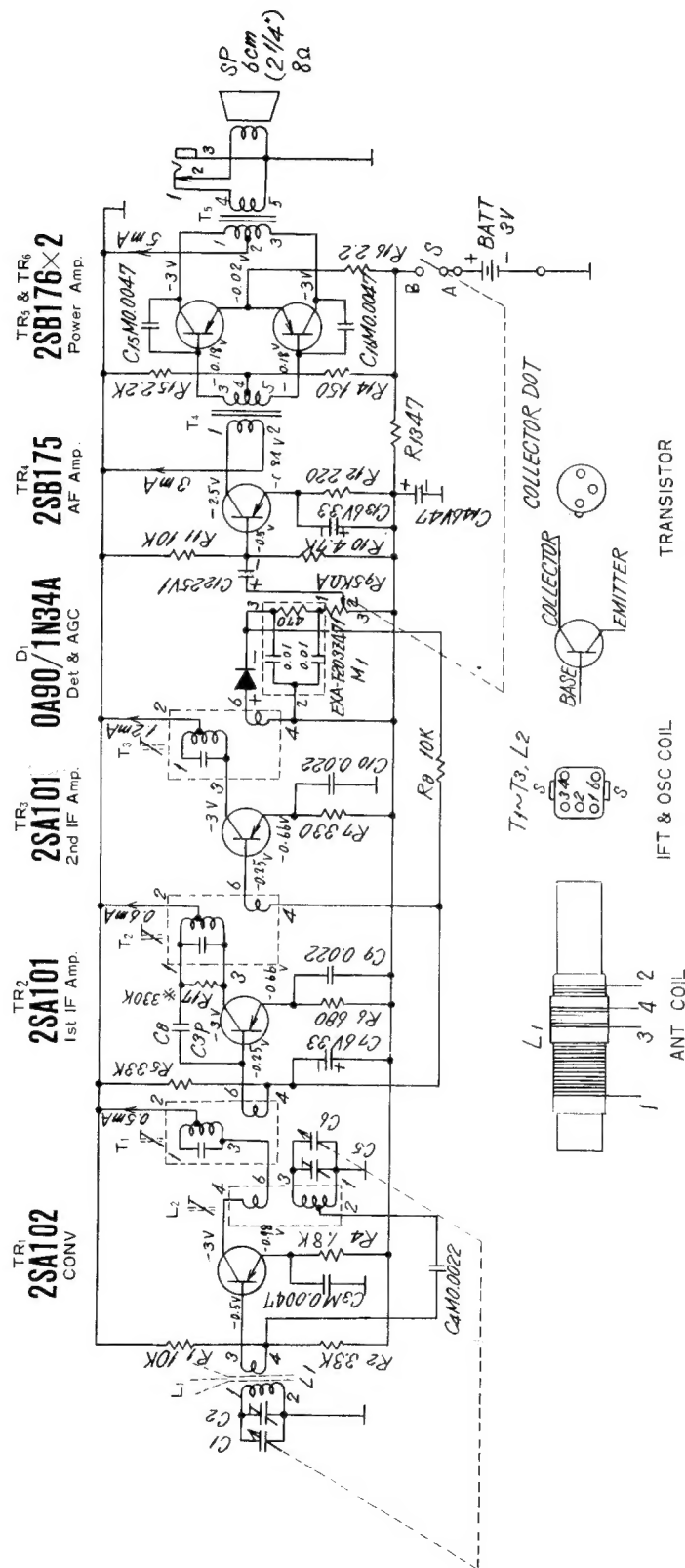


SPECIFICATIONS

Frequency Range :	525~1605 kHz (571~187 m)
Intermediate Frequency :	455 kHz
Transistors :	2SA102 Converter
	2SA101 1st IF Amplifier
	2SA101 2nd IF Amplifier
	2SB175 AF Amplifier
	2SB176 } Power Amplifier (push-pull)
	2SB176 }
Diode :	O A 9 0 Detector & AGC
Sensitivity :	150 μ V/m for 5mW Output
Power Output :	120mW Maximum
Battery :	
Speaker :	6cm (2 $\frac{1}{4}$ ") PM Dynamic Speaker, 8 Ω
Cabinet Dimensions :	112(Wide) \times 69(High) \times 33.7(Deep) mm (4 $\frac{13}{32}$ " \times 2 $\frac{3}{32}$ " \times 1 $\frac{11}{32}$ ")
Weight :	250g (9 oz.) with batteries

<EXPORT DIVISION>
MATSUSHITA ELECTRIC TRADING CO., LTD.
P. O. Box 288, Central Osaka, Japan

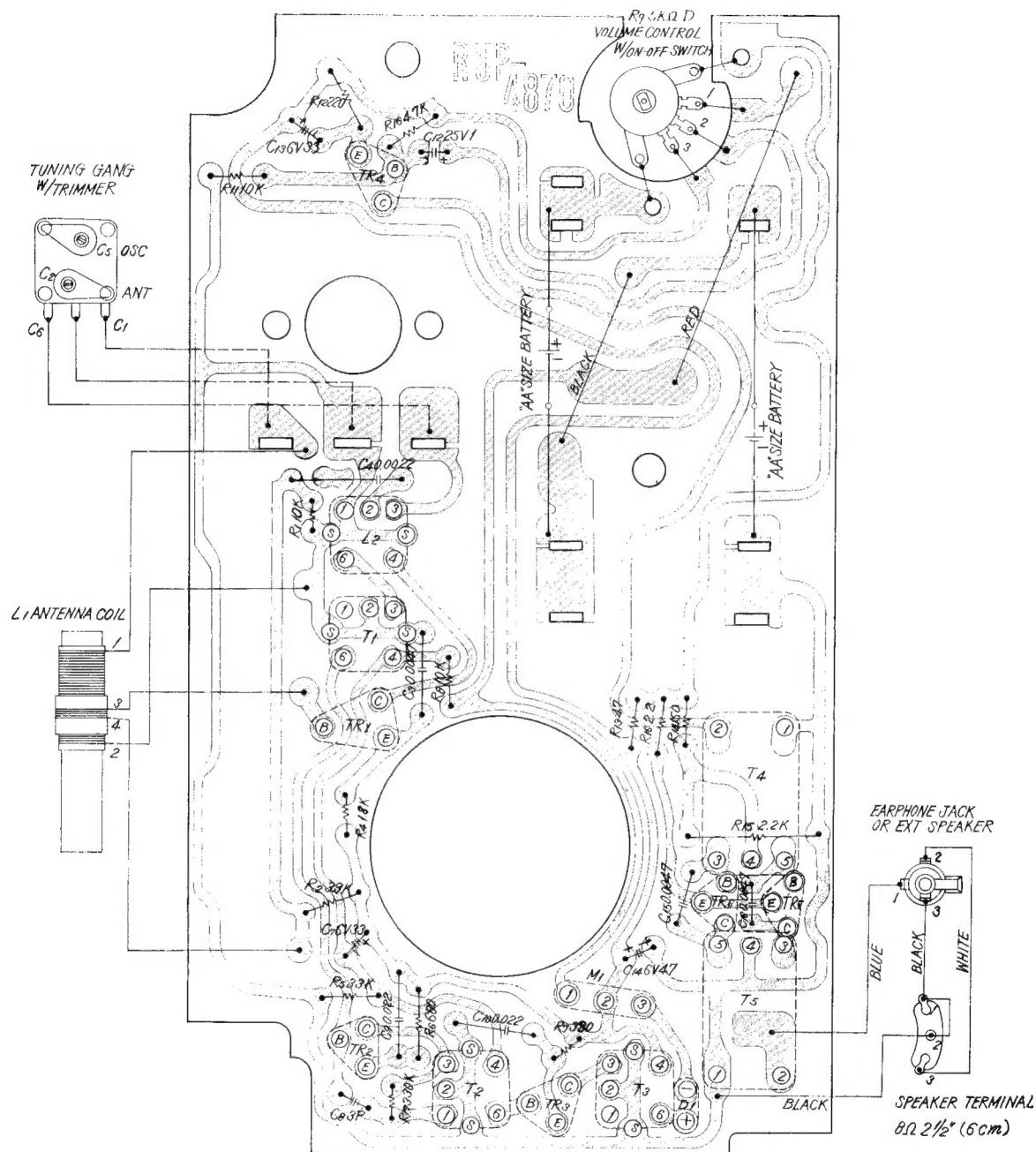
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.
RADIO and STEREO DIVISION



Notes:

1. S: Power source switch in "OFF" position
2. Voltage measurements are taken with circuit tester (10K Ω /V) from positive terminal of battery.
3. Capital letters (M) in the circuit diagram show allowable tolerance of resistors and capacitors as follows:
M = $\pm 20\%$
4. Tolerance of capacitor is +100% (P) if not otherwise indicated.
— 0%
5. Tolerance of capacitor is $\pm 10\%$ (K) if not otherwise indicated.
6. PF = pico farad = mmf
 μ F = micro farad = mfd
7. Battery current: No signal.....10mA
Maximum Output.....83mA
8. All resistor values in ohms (K=1000 Ω).
9. All capacitor values in micro farad (P=mmf).

Fig. 1 Schematic Diagram

**Notes:**

1. All resistor values in ohms (K=1000 Ω).
2. All capacitor values in micro farads (P=mmf).

Fig. 2 Circuit Board Wiring View (Conductor Side).

MODEL R-1037

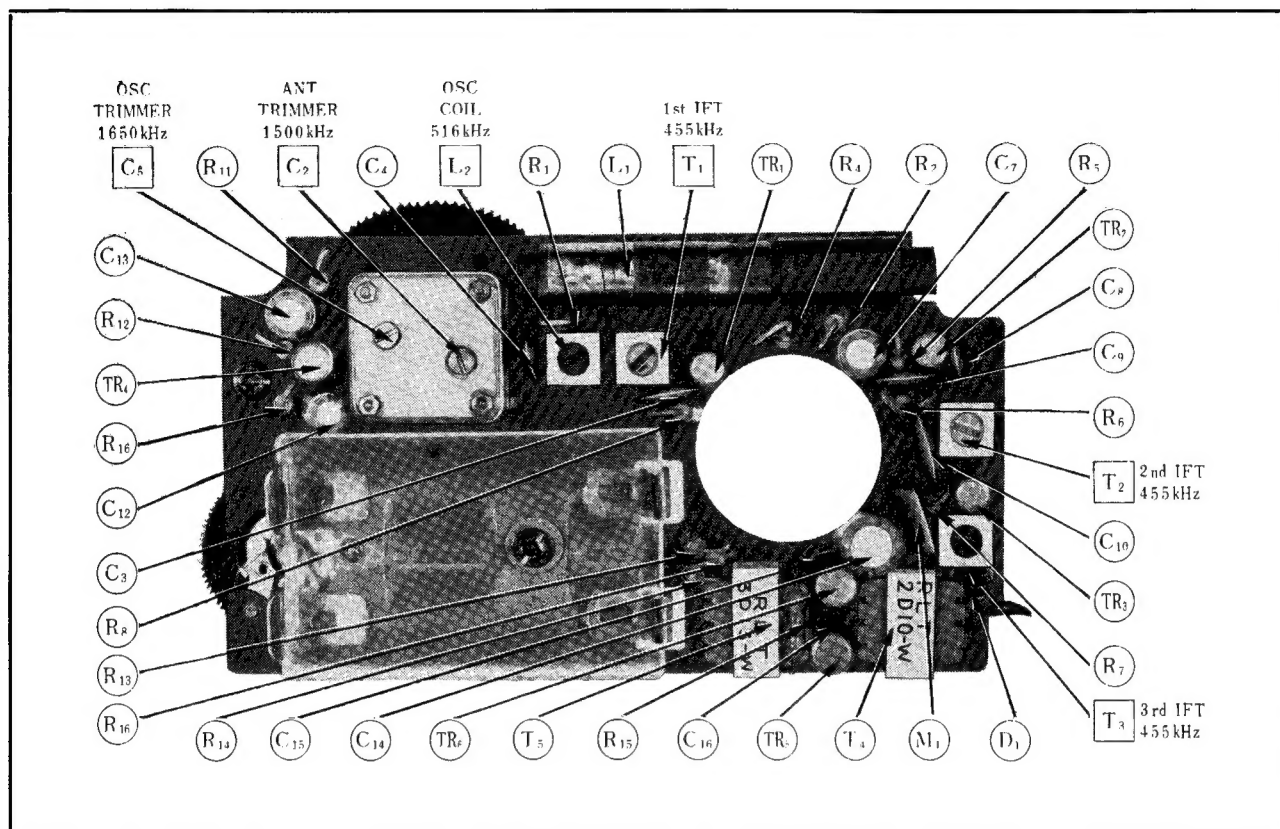


Fig. 3 Component View — Chassis Identification, Alignment points.

ALIGNMENT INSTRUCTIONS

IF & RF ALIGNMENT

Output of signal generator should be no higher than necessary to obtain an output reading.
 Set volume control to maximum.
 Set power source voltage to 3 volts DC.

SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz (1000Hz Mod.)	Tuning gang fully closed.	Output meter across voice coil	T ₃ (3rd IFT) T ₂ (2nd IFT) T ₁ (1st IFT)	Adjust for maximum output.
"	516 kHz (1000Hz Mod.)	"	"	L ₂ (OSC Coil)	"
"	1650 kHz (1000Hz Mod.)	Tuning gang fully open.	"	C ₅ (OSC Trimmer)	"
"	550 kHz (1000Hz Mod.)	550 kHz	"	L ₁ (ANT Coil)	Adjust for maximum output by sliding coil (L ₁) along ferrite core.
"	1500 kHz (1000Hz Mod.)	1500kHz	"	C ₂ (ANT, Trimmer)	Adjust for maximum output. Repeat steps(2) through (5).

Note : Cement antenna bobbin with wax after completing alignment.

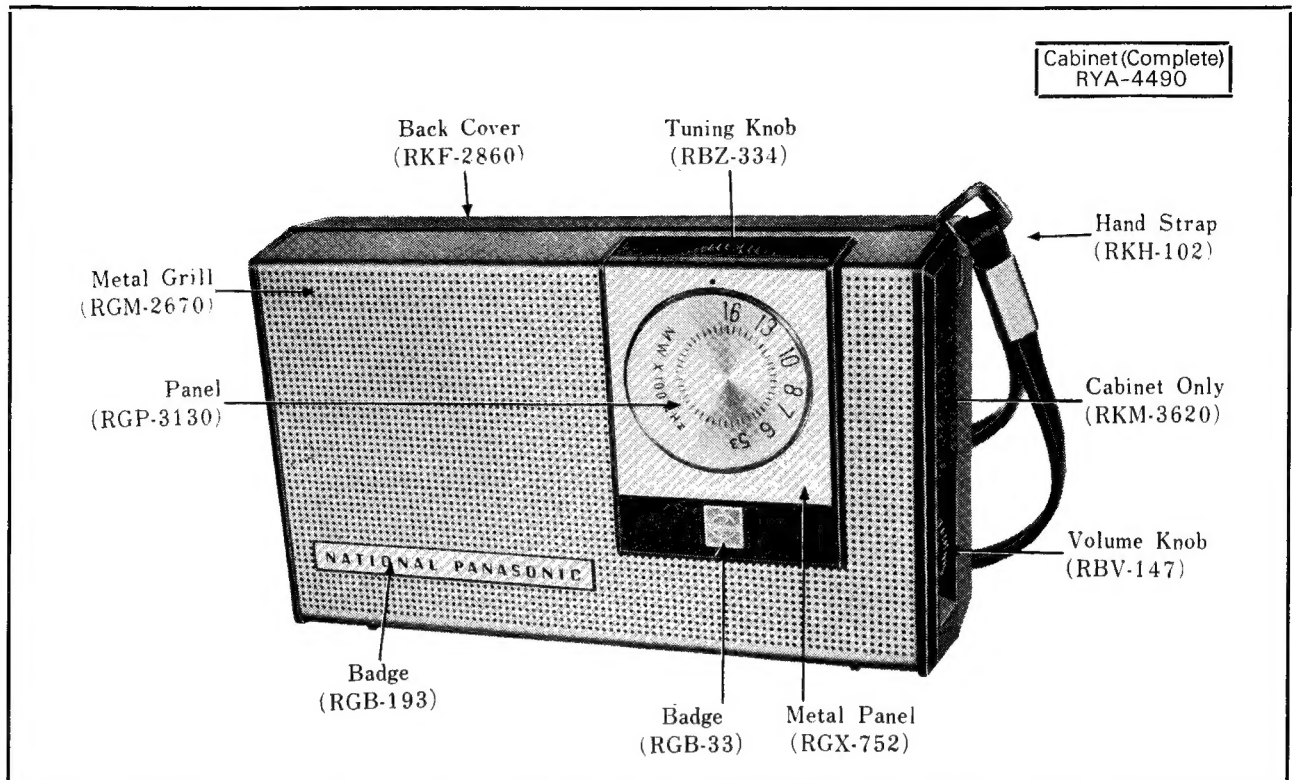


Fig. 4 Cabinet & Appearance—Parts Identification.

To Remove Chassis (Refer to Fig. 5)

1. Remove cabinet back cover.
2. Remove two (2) red chassis mounting screws, Nos. 1~2, as illustrated in fig. 5.
3. To remove chassis completely, unsolder leadwires to speaker, earphone jack & battery terminals.
4. To reassemble, reverse the above procedure.

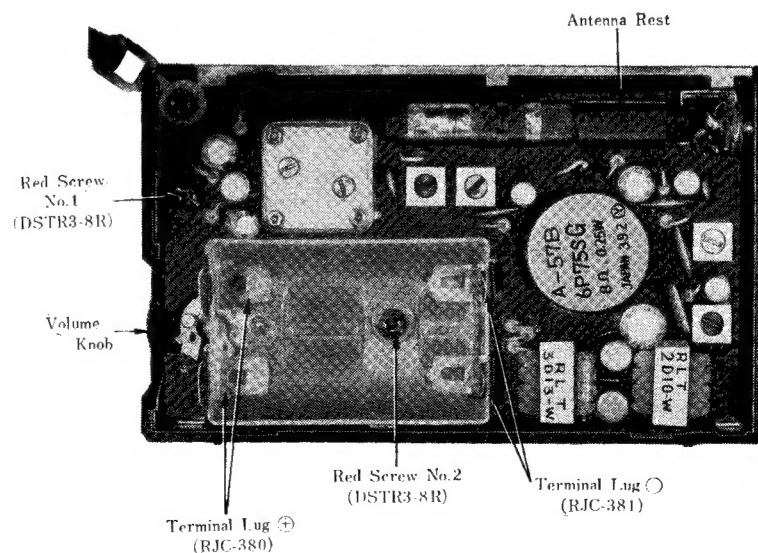


Fig. 5 Top View—Disassembly Points

MODEL R-1037

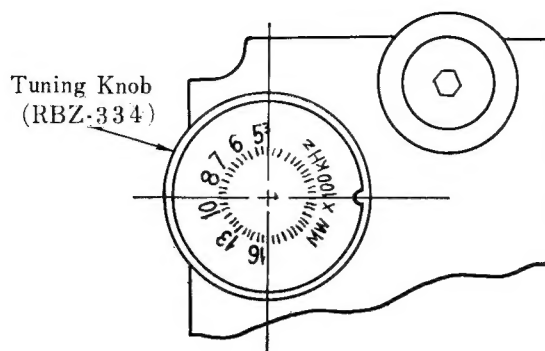


Fig. 6

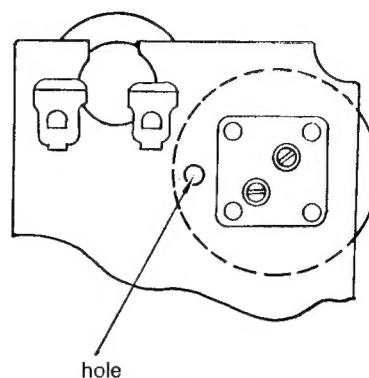


Fig. 7

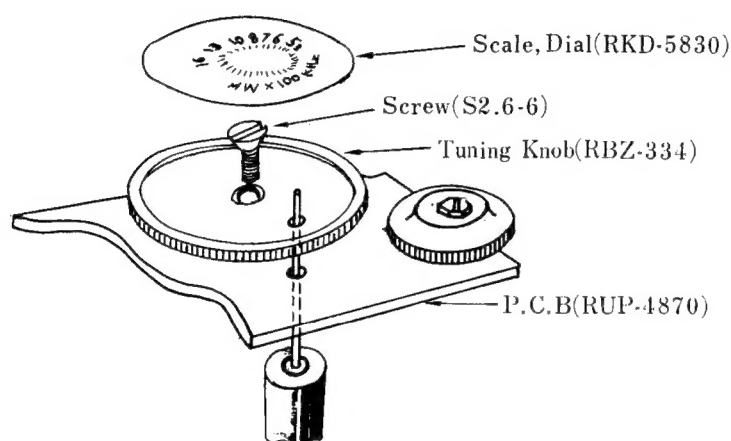


Fig. 8

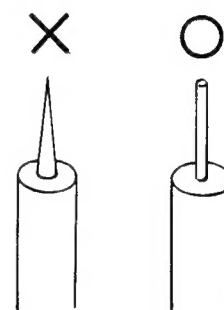


Fig. 9

To Remove Tuning Knob & Dial Scale

1. Set tuning gang to position, as illustrated in fig. 6.
2. Remove back cover from cabinet and remove battery sheet.
3. Remove dial scale from tuning gang so that gimlet can be inserted into small hole by variable capacitor, as illustrated in fig. 7 & 8.

Notes: (Refer to fig. 9)

1. Don't damage it so that removed dial scale make use of again.
2. Don't make use of sharp gimlet. Do make use of flat gimlet.

REPLACEMENT PARTS LIST

- Notes:** 1. * indicates parts for the complete cabinet which are included when cabinet is ordered.
2. Part numbers are indicated on most mechanical parts. Please use this number, therefore, when ordering parts.

Ref. No.	Part No.	Description
TRANSISTORS AND DIODE		
TR ₁	2SA102	Converter
TR ₂	2SA101	1st IF Amplifier
TR ₃	2SA101	2nd IF Amplifier
TR ₄	2SB175	AF Amplifier
TR ₅	2SB176	Power Amplifier (Push-pull)
TR ₆	2SB176	
D ₁	O A 9 0/1N34A	Detector & AGC

Ref. No.	Part No.	Description
CAPACITORS		
C ₈	ECC-D05030C	3mmfd, 50WV, ± 0.25 , Ceramic
C ₁₅ , C ₁₆	ECQ-G05472MZ	0.0047mfd, 50WV, $\pm 20\%$, Ceramic
C ₄	ECK-E05222MY	0.0022mfd, 50WV, $\pm 20\%$, Ceramic
C ₃	ECK-E05472MY	0.0047mfd, 50WV, $\pm 20\%$, Ceramic
C ₉ , C ₁₀	ECK-E05223P	0.022mfd, 50WV, $\pm 100\%$, Ceramic
C ₁₂	ECE-A25V1	1mfd, 25WV, Electrolytic
C ₇ , C ₁₃	ECE-A6V33	33mfd, 6WV, Electrolytic
C ₁₄	ECE-A6V47	47mfd, 6WV, Electrolytic
C ₁ , C ₆	PVC-LY20T	Tuning Gang W/Trimmer (C ₂ , C ₅)
RESISTORS		
R ₁₆	ERD-14VK 2R2	2.2 Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₁₃	ERD-14VK 470	47 Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₁₄	ERD-14VK 151	150 Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₁₂	ERD-14VK 221	220 Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₇	ERD-14VK 331	330 Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₆	ERD-14VK 681	680 Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₄	ERD-14VK 182	1.8K Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₂	ERD-14VK 332	3.3K Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₁₀	ERD-14VK 472	4.7K Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₁ , R ₈ , R ₁₁	ERD-14VK 103	10K Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₅	ERD-14VK 333	33K Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₁₅	ERD-14VK 222	2.2K Ω , $\frac{1}{4}$ Watt, $\pm 10\%$, Carbon
R ₉	EVL-MOBT12D53	Volume Control 5K Ω , A W/ON-OFF Switch (S ₁)
COMPONENT COMBINATION		
M ₁	EXA-F203Z471	0.01mfd, 0.01mfd & 470 Ω
COILS AND TRANSFORMERS		
L ₁	RLF-2L9-U	Antenna Coil
L ₂	RLO-2B43-U	Oscillator Coil
T ₁	RLI-2B151-M	1st IF Transformer
T ₂	RLI-2B250-M	2nd IF Transformer
T ₃	RLI-2B451-M	3rd IF Transformer
T ₄	RLT-3D13	Input Transformer
T ₅	RLT-2D10	Output Transformer
SPEAKER AND EARPHONE		
SP	EAS-6P75SG	2 $\frac{1}{2}$ " PM Dynamic Speaker, 8 Ω
EP	EAE-1FB	Magnetic Earphone, 8 Ω
MISCELLANEOUS		
	RJJ-54	Jack Earphone & EXT Speaker
	RJC-380	Terminal lug Battery \oplus Side (2 Req'd)
	RJC-381	Terminal lug Battery \ominus Side (2 Req'd)
	*RHP-971	Tape, Metal Grill M'tg. (3 Req'd)
	*RHR-630-1	Rubber Cushion, (2 Req'd)
MISCELLANEOUS		
	RUV-397	Sheet, Battery
	RMX-110-3	Insulated sheet
	RMS-51	Bracket, Speaker (2 Req'd)
	DSTR3-8R	Red Screw, Chassis-mounting
APPEARANCE		
	RYA-4490	R-1037 Prepared Cabinet
	*RYM-900	Prepared Cabinet body
	*RYF-770	Prepared Cabinet Cover
	RBZ-334	Knob, Tuning
	RKD-5830	Scale, Dial
	RBV-147	Knob, Volume
	RKH-102	Hand Strap